Notice of Allowability	Application No.	Applicant(s)	
	09/927,139	GUPTA ET AL.	
	Examiner	Art Unit	
	Chuong D Ngo	2124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *papers filed on 07/23/2004*.

2. ☒ The allowed claim(s) is/are *1,2,4-11 and 13-19*.

3. ☒ The drawings filed on *10 August 2001* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Chuong D Ngo
Primary Examiner
Art Unit: 2124

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record that appears below is merely to move the added limitation "a result adder responsive to the partial remainder and the accumulated quotient or result to generate a quotient mantissa or square-root result mantissa" to the end of claim 1, and between lines 44 and 45 of claim 11. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Claim 1 has been replaced by

-- 1. An iterative mantissa calculator for a floating point divide and square root processor that selectively calculates a divide result mantissa based on a divisor mantissa and dividend mantissa or a square-root result mantissa based on an operand mantissa, the calculator comprising:

a plurality of summing devices, each of the summing devices being arranged to generate a partial remainder during a divide operation and at least one of the summing devices being arranged to generate a partial remainder during a square-root operation;

a selector coupled to each summing device, each selector being arranged to select a quotient bit during a divide operation, and at least one of the selectors being arranged to select a result bit during a square-root operation;

a first of the summing devices being responsive during a first iteration to a partial remainder generated during a prior iteration and to an accumulated quotient generated by a second selector to generate a first partial remainder for a divide operation, a first selector being responsive to the first partial remainder to generate a quotient bit and accumulate a first quotient, a second of the summing devices being responsive during a second iteration to the first partial remainder generated during a prior iteration and to the accumulated first quotient to generate a second partial remainder for a divide operation and the second selector being responsive to the second partial remainder and the accumulated first quotient to accumulate a second quotient, and

the first of the summing devices being responsive to a partial remainder generated by the second summing device during a prior iteration and to an result accumulated during the prior iteration to generate a sum, the second of the summing devices being responsive to the sum and to a shifted accumulated result to generate a partial remainder and the second selector being responsive to the partial remainder to generate a result bit and accumulate a result; and

a result adder responsive to the partial remainder and the accumulated quotient or result to generate a quotient mantissa or square-root result mantissa.--

Claim 11 has been replaced by

--11. A computer processor for calculating a floating point quotient based on a divisor mantissa, a dividend mantissa, a divisor exponent and a dividend exponent, and for calculating a square root result based on an operand mantissa and an operand exponent, the processor comprising:

an iterative mantissa calculator that selectively calculates a divide result mantissa or a square-root result mantissa, the calculator having:

a plurality of summing devices, each of the summing devices being arranged to generate a partial remainder during a divide operation and at least one of the summing devices being arranged to generate a partial remainder during a square-root operation;

a selector coupled to each summing device, each selector being arranged to select a quotient bit during a divide operation, and at least one of the selectors being arranged to select a quotient bit during a divide operation, and at least one of the selectors being arranged to select a result bit during a square-root operation;

a first of the summing devices being responsive during a first iteration to a partial remainder generated during a prior iteration and to an accumulated quotient generated by a second selector to generate a first partial remainder for a divide operation, a first selector being responsive to the first partial remainder to generate a quotient bit and accumulate a first quotient, a second of the summing devices being responsive during a second iteration to the first partial remainder generated during a prior iteration and to the accumulated first quotient to generate a second partial remainder for a divide operation and the second selector being responsive to the second partial remainder and the accumulated first quotient to accumulate a second quotient, and

the first of the summing devices being responsive to a partial remainder generated by the second summing device during a prior iteration and to an result accumulated during the prior iteration to generate a sum, the second of the summing devices being responsive to the sum and to a shifted accumulated result to generate partial remainder and the second selector being responsive to the partial remainder to generate a result bit and accumulate a result; and

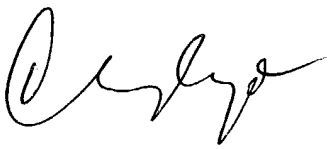
a result adder responsive to the partial remainder and accumulated quotient or result to generate a quotient mantissa or square-root result mantissa; and

an exponent calculator responsive to the divisor and dividend exponents to calculate a divide exponent and being responsive to the operand exponent to calculate the square-root exponent.—

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong D Ngo whose telephone number is (703) 305-9764. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703) 309-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuong D Ngo
Primary Examiner
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09/03/2004